

## WHAT IS CLAIMED IS:

1. ~~A~~ water purifier main body, including:

a raw water inlet;

a raw water supply inlet; and

a main body side coupling portion that couples to a water purifier filtration portion for filtering raw water flowing in from said raw water inlet at said raw water supply inlet in a detachable and attachable manner,

wherein said main body side coupling portion is provided with a main body side stopping member for coupling said water purifier filtration portion to said water purifier main body by stopping and being stopped by a filtration portion side stopping member provided to said water purifier filtration portion, and

wherein said main body side stopping member is provided to said main body side coupling portion in such a manner that said main body side stopping member is allowed to move only in one direction that intersects substantially at right angles with an axial core direction of said main body side coupling portion in a connection operation and a disconnection operation of said water purifier filtration portion and said water purifier main body.

2. The water purifier main body according to Claim 1, wherein:

said main body side stopping member is provided on a supporting member housed in said main body side coupling portion; and

said supporting member is sandwiched by a pair of outer edge portions provided to an inner wall of said main body side coupling portion to prevent said supporting member from moving in a flowing direction of the raw water passing by said main body side coupling portion in such a manner that said supporting member is allowed to slide in said one direction.

3. The water purifier main body according to Claim 2, wherein said supporting member is provided with a resilient body for pushing said supporting member when sliding in said one direction.

4. The water purifier main body according to Claim 2, wherein:

said main body side stopping member is a pillar-wise protrusion formed from a prism having a substantially trapezoidal surface as a bottom surface, said substantially trapezoidal surface protruding in an inward direction of said main body side coupling portion, so that a top side and a base side thereof are in parallel with said one direction and an oblique side thereof is positioned at a side of said water purifier filtration portion; and

said main body side stopping member is stopped by said filtration portion side stopping member formed from a prism, which is substantially identical with said main body side stopping member in shape and protrudes toward said water purifier filtration portion in a positional relation such that, at a beginning of the connection operation, said main body side stopping member and said filtration portion side stopping member touch with each other at their respective slanted surfaces each corresponding to the oblique side of said substantially trapezoidal surface.

5. The water purifier main body according to Claim 1, wherein said main body side coupling portion fits in a filtration portion side fitting member provided to said water purifier filtration portion, and is provided with a main body side fitting member for preventing said main body side coupling portion from rotating around an axial core.

6. A water purifier filtration portion, including:  
a raw water accepting inlet for accepting raw water from a water purifier main body;  
a purified water outlet for releasing purified water to an outside; and  
a filtration portion side coupling portion that couples to said water purifier main body at said raw water accepting

inlet in a detachable and attachable manner,

wherein said filtration portion side coupling portion is provided with a filtration portion side stopping member for coupling said water purifier filtration portion to said water purifier main body by stopping and being stopped by a main body side stopping member provided to said water purifier main body, and

wherein said water purifier filtration portion is coupled to the water purifier main body by said filtration portion side stopping member in a detachable and attachable manner ,

wherein said water purifier main body includes said main body side coupling portion provided with the main body side stopping member for coupling said water purifier filtration portion to said water purifier main body by stopping and being stopped by the filtration portion side stopping member provided to said water purifier filtration portion, and

wherein said main body side stopping member is provided to said main body side coupling portion in such a manner that said main body side stopping member is allowed to move only in one direction that intersects substantially at right angles with an axial core direction of said main body side coupling portion in a connection operation and a disconnection operation of said water purifier filtration portion and said water purifier main body.

7. A water purifier filtration portion, including:

a raw water accepting inlet for accepting raw water from a water purifier main body;

a purified water outlet for releasing purified water to an outside; and

a filtration portion side coupling portion that couples to said water purifier main body at said raw water accepting inlet in a detachable and attachable manner,

wherein said filtration portion side coupling portion is provided with a filtration portion side stopping member for coupling said water purifier filtration portion to said water purifier main body by stopping and being stopped by a main body side stopping member provided to said water purifier main body, and

wherein said filtration portion side stopping member is provided in such a manner that said filtration portion side stopping member is allowed to move only in one direction that intersects substantially at right angles with an axial core direction of said filtration portion side coupling portion in a connection operation and a disconnection operation of said water purifier filtration portion and said water purifier main body.

8. The water purifier filtration portion according to Claim 7, wherein:

said filtration portion side stopping member is a pillar-wise protrusion formed from a prism having a substantially trapezoidal surface as a bottom surface, said substantially trapezoidal surface protruding outward at said raw water accepting inlet, so that a top side and a base side thereof are in parallel with said one direction and an oblique side thereof is positioned at a side of said water purifier main body; and

said filtration portion side stopping member is stopped by said main body side stopping member, which is substantially identical with said filtration portion side stopping member in shape and protrudes toward said water purifier main body in a positional relation such that, at a beginning of the connection operation, said main body side stopping member and said filtration portion side stopping member touch with each other at their respective slanted surfaces each corresponding to the oblique side of said substantially trapezoidal surface.

9. The water purifier filtration portion according to Claim 7, wherein said filtration portion side coupling portion fits in a main body side fitting member provided to said water purifier main body, and is provided with a filtration portion side fitting member for preventing said filtration portion side coupling portion from rotating around an axial core.

10. A water purifier, including:

a water purifier main body ; and

a water purifier filtration portion coupled to said water purifier main body in a detachable and attachable manner,

wherein said water purifier main body is provided with

a raw water inlet;

a raw water supply inlet; and

a main body side coupling portion that couples to the water purifier filtration portion for filtering raw water flowing in from said raw water inlet at said raw water supply inlet in a detachable and attachable manner,

wherein said main body side coupling portion is provided with a main body side stopping member for coupling said water purifier filtration portion to said water purifier main body by stopping and being stopped by a filtration portion side stopping member provided to said water purifier filtration portion, and

wherein said main body side stopping member is provided to said main body side coupling portion in such a manner that said main body side stopping member is allowed to move only in one direction that intersects substantially at right angles with an axial core direction of said main body side coupling portion in a connection operation and a disconnection operation of said water purifier filtration portion and said water purifier main body.

11. A water purifier, including:

a water purifier filtration portion ; and

a water purifier main body coupled to said water purifier filtration portion in a detachable and attachable manner,

wherein said water purifier filtration portion includes :

a raw water accepting inlet for accepting raw water from the water purifier main body;

a purified water outlet for releasing purified water to an outside; and

a filtration portion side coupling portion that couples to said water purifier main body at said raw water accepting inlet in a detachable and attachable manner,

wherein said filtration portion side coupling portion is provided with a filtration portion side stopping member for coupling said water purifier filtration portion to said water purifier main body by stopping and being stopped by a main body side stopping member provided to said water purifier main body, and

wherein said filtration portion side stopping member is provided in such a manner that said filtration portion side stopping member is allowed to move only in one direction that intersects substantially at right angles with an axial core direction of said filtration portion side coupling portion in a connection operation and a disconnection operation of said



water purifier filtration portion and said water purifier main body.

- ~~12.~~ A water purifier filtration portion, including:
- a drum; and
  - a display portion connected to said drum in a detachable and attachable manner,
- wherein said drum includes:
- a raw water accepting inlet for accepting raw water from a raw water supply source;
  - a purified water outlet for releasing purified water to an outside; and
  - a supporting portion for placing a filtration material in a channel between said raw water accepting inlet and said purified water outlet,
- wherein said display portion includes:
- an electric circuit, provided with a first output portion and a first input portion, for accumulating time while said first input portion is switched ON and for outputting an output corresponding to accumulated time from said first output portion; and
  - a first conductive member for switching ON said electric circuit at said first input portion when an internal pressure in said channel rises,
- wherein said drum is provided with a resilient body on

a wall surface thereof and a pressure sensing portion formed from a protrusion portion protruding toward said display portion from said resilient body, and

wherein said first conductive member is isolated from said drum, and is provided at a position where said first conductive member is brought into contact with said first input portion by a water pressure conveyed from said pressure sensing portion through said protrusion portion to close said electric circuit.

13. The water purifier filtration portion according to Claim 12, wherein:

said first conductive member is provided on a resilient thin plate separated from said drum; and

a protruding surface of said protrusion portion, said first conductive member, and said first input portion are placed sequentially in order of description on a substantially straight line along a normal direction of a wall surface of said drum, on where said pressure sensing portion is formed.

14. The water purifier filtration portion according to Claim 13, wherein:

said first conductive member on said resilient thin plate is provided to a bottom surface at a side of said electric circuit of a protruding first pressing portion provided at a position

so as to be pressed by the protruding surface of said protrusion portion; and

said first conductive member is supported by being formed as an integral part of said resilient thin plate in such a manner that a reciprocating motion is allowed in association with a pressing operation and a pressed condition releasing operation by said protrusion portion.

15. The water purifier filtration portion according to Claim 12, wherein:

said electric circuit is provided with a second input portion for erasing the accumulated time counted by said electric circuit when said electric circuit is switched ON; and

said display portion is provided with a second conductive member for switching ON said electric circuit when brought into contact with said second input portion in sync with separation of said drum by a detaching and attaching mechanism.

16. The water purifier filtration portion according to Claim 15, wherein:

said second conductive member is provided to a bottom surface at a side of said electric circuit of a second pressing portion provided on said resilient thin plate; and

said detaching and attaching mechanism presses said second pressing portion toward said electric circuit in

association with a separating operation of said display portion and said drum.

17. The water purifier filtration portion according to Claim 15, wherein:

said first pressing portion and said second pressing portion are made of substantially cylindrical columns formed as an integral part of said resilient thin plate; and

said first pressing portion and said second pressing portion are supported at side surfaces of their respective columns and by a resilient supporting portion of a substantially truncated cone formed as an integral part of said resilient thin plate to have a little smaller plate thickness in comparison with a surface of said resilient thin plate.

18. The water purifier filtration portion according to Claim 17, wherein a groove portion is provided along a circumference forming a connection portion of said resilient supporting portion and the surface of said resilient thin plate.

19. The water purifier filtration portion according to Claim 18, wherein at least one of said resilient body, said protrusion portion, said resilient thin plate, said first pressing portion, and said second pressing portion is made of silicone rubber.

20. A water purifier including:

a water purifier filtration portion provided with :

a drum; and

a display portion connected to said drum in a detachable and attachable manner,

wherein said drum includes:

a raw water accepting inlet for accepting raw water from a raw water supply source;

a purified water outlet for releasing purified water to an outside; and

a supporting portion for placing a filtration material in a channel between said raw water accepting inlet and said purified water outlet,

wherein said display portion includes:

an electric circuit, provided with a first output portion and a first input portion, for accumulating time while said first input portion is switched ON and for outputting an output corresponding to accumulated time from said first output portion; and

a first conductive member for switching ON said electric circuit at said first input portion when an internal pressure in said channel rises,

wherein said drum is provided with a resilient body on a wall surface thereof and a pressure sensing portion formed

from a protrusion portion protruding toward said display portion from said resilient body, and

wherein said first conductive member is isolated from said drum, and is provided at a position where said first conductive member is brought into contact with said first input portion by a water pressure conveyed from said pressure sensing portion through said protrusion portion to close said electric circuit.